DEPARTMENT OF THE NAVY
COMMANDER NAVAL SURFACE FORCES
2841 RENDOVA ROAD Canc frp: Jan 06
SAN DIEGO, CA 92155-5490

COMNAVSURFORNOTE 4701
Code N43
29 Dec 04

COMNAVSURFOR NOTICE 4701

Subj: SURFACE SHIP MAINTENANCE VALIDATION, SCREENING, AND BROKERING

Ref: (a) OPNAVINST 4700.7K
(b) COMLANTFLT/COMPACFLT INST 4790.3
(c) COMNAVSURFOR 200024Z OCT 04, SHIPMAIN GRAM #6

Encl: (1) Planning Board for Maintenance (PB4M)
(2) Validation Business Rules and Flow Chart
(3) Maintenance Figure of Merit (MFOM) Business Rules
(4) Screening, Scheduling and Brokering Process Business Rules
(5) Availability Numbering System
(6) Work Candidate Priority Flow Chart
(7) Requirements Process Metrics

1. Purpose: To provide revisions to and update COMNAVSURFOR (CNSF) ship maintenance work candidate validation, screening, and brokering processes. These process changes affect COMNAVSURFPAC (CNSP) and COMNAVSURFLANT (CNSL), Regional Maintenance Centers (RMC) and CNSF Maintenance Teams. These revisions are a part of the ongoing SHIPMAIN initiative being worked by SHIPMAIN Cross Functional Teams.

2. Cancellation: COMNAVSURFOR NOTICE 4701 dtd 31 December 2003 is superseded and cancelled.

3. Background: Management of surface ship maintenance processes and procedures has been the subject of considerable review. Budgetary constraints, improvements in both work processes and in maintenance automated information systems, and the continuing need to streamline and re-engineer our approach to maintenance in order to maximize resource efficiency have driven multiple studies. This notice sets policies for CNSF ship maintenance that have developed out of such efforts as VCNO's Task Force Maintenance, SECNAV Maintenance Panel, and SHIPMAIN. This re-engineering process has not ended. Future, metrics driven changes will continue to improve the efficiency of the maintenance process while contributing to improvements in ship material readiness and availability for operations (A_o). This revision to COMNAVSURFOR NOTICE 4701 updates metric information, includes discussion of Integrated Class Maintenance

Plan (ICMP) processes, and incorporates other material previously issued in SHIPMAIN GRAM messages.

4. Definitions

a. Maintenance: Actions taken to ensure components, equipment and systems provide their intended function when required. This includes all actions applied by ship's force or any off-ship activity to assess material condition or to accomplish preventive, corrective, or alterative actions. In compliance with reference (a), ships shall document all deferred preventive and corrective maintenance requirements, regardless of the source of the requirements, in the ship's Current Ship Maintenance Project (CSMP). Any maintenance action requiring off-ship activity assistance requires a work candidate in the ship's CSMP prior to brokering to an accomplishing activity.

(1) Single process - Maintenance is maintenance. All maintenance is managed using the same process, from work discovery through work execution. A goal of Continuous Maintenance is that all work follows the same process, uses the same forms, formats, products, and procedures. Using the same repeatable process facilitates the flexibility required to redirect work and workforce as circumstances and priorities change, without having to rework any planning products.

(2) Single maintenance database - CSMP. All maintenance is managed in the same database, the CSMP. The Commanding Officer must ensure that the flow of accurate, objective, and prioritized work candidates documenting problems are uplined to the CSMP shore file as material deficiencies are discovered. This permits work to be planned in a continuous, orderly manner. Using the same database for all maintenance allows the flexibility to redirect work between different windows of opportunity, i.e., availabilities, and between different repair activities.

(3) Single source of engineered maintenance technical requirements – Integrated Class Maintenance Plan (ICMP). The ICMP includes all PMS tasks, including assessments, that typically require off ship assistance, as well as qualified repair tasks. ICMP tasks contain Reliability Centered Maintenance (RCM) based maintenance requirements categorized as either scheduled, nonscheduled, availability routines, or modernization. The applicable ISEA determines which ICMP tasks are scheduled or nonscheduled (including scheduled task

periodicities) during periodic Maintenance Effectiveness Reviews (MERs). Scheduled tasks will be "pushed" to the shore CSMP in support of the maintenance team. Nonscheduled tasks will be "pulled" to the CSMP by the maintenance team based upon evidence of need. Availability Routines and Approved Alterations for CNO availabilities will be pushed to the CSMP by the applicable TYCOM Type Desk Program Managers. These tasks will be pushed at approximately A-540 and will be pulled as needed for CMAVs.

b. Regional Maintenance Center (RMC): The command, in each homeport, designated as the maintenance center with overall responsibility for efficient planning, brokering, and execution of all ship maintenance and modernization for assigned ships. The RMC is a subordinate command to the Fleet Commander. The RMC reports Additional Duty (ADDU) to the appropriate Surface Force Commander. This reporting relationship ensures that the Surface Force Commanders can continue to effectively carry out their responsibilities relating to material readiness of their ships.

c. Maintenance Team: The team, directed by the ship’s Commanding Officer, of representatives from the ship and the supporting ship maintenance infrastructure responsible for validating, brokering, scheduling, and tracking through execution all maintenance candidates. This team acts collectively to streamline the various stages of the maintenance process with each member of the maintenance team responsible for performing their assigned duties within the maintenance process. The core Maintenance Team shall consist of the following members:

Ship’s Commanding Officer - Leader
Port Engineer - Team Coordinator
Ship Material Maintenance Officer (SMMO)
RMC Waterfront Operations Department Ship Superintendent
Naval Supervisory Activity (NSA) Project/Program Manager
MSMO Contractor Program Manager (if applicable)

Note: While core team members are permanent, augmentation may be required during the ship’s interdeployment period. Core team members may be assigned responsibilities for more than one ship. Additional members, such as technical representatives from within the RMC, may be fully dedicated, as needed, or have split assignments. When a crew swap occurs that rotates a different crew to a hull, the non-crew members of the Maintenance Team shall remain with the hull and provide continuity in planning and execution.

The primary responsibility of the Maintenance Team is to execute the maintenance policies, directives and regional business rules of the TYCOM and the RMC. The Maintenance Team has four principal roles:

(1) Management of ship maintenance. This role requires that the Maintenance Team ensure the ship's CSMP is validated and accurately reflects the ship's material condition and current maintenance status. This task includes ensuring there is an initial cost estimate in man-days and material dollars for all CSMP entries requiring off-ship assistance, including assessments and technical assistance. The estimates shall be developed by the Maintenance Team during initial review of the work candidates and, at a minimum, should be ± 40 percent and shall be based on information available to the Maintenance Team such as return costs from similar jobs, Port Engineer experience, and NSA or other government prepared or approved estimates. These estimates shall be updated within the CSMP as they are refined in order to provide the Maintenance Team with adequate data to plan maintenance actions. The Maintenance Team coordinates inspections, certifications, assessments and assist visits in support of the ICMP. Additionally, the Maintenance Team may provide on-scene assessment of equipment condition, both of individual pieces of equipment and of all distributed systems, to assist ships in developing appropriate, valid, accurate work candidates.

(2) Budgeting for Ship Maintenance. The Maintenance Team is responsible for the ship's Maintenance and Modernization Business Plan. The Maintenance Team applies its knowledge of the ship's material condition and prospective operating profile to develop the budget recommendation for funding maintenance requirements 6-8 months prior to the start of the upcoming fiscal year. The Maintenance Team's assessment of the ship's anticipated material condition for budget consideration shall include the validated CSMP, which includes ICMP applicable tasks, planned fleet alterations, outstanding departures from specification, CASREPs, and INSURV material discrepancies. This Maintenance and Modernization Business Plan shall address funding required for CNO availabilities, advance planning, and continuous maintenance opportunities. The Maintenance Team members review these funding requirements with the ship's Commanding Officer and submit this funding requirement as the ship's Maintenance and Modernization Business Plan to the CNSL/CNSP N43 via the RMC Commander. The CNSL/CNSP N43 and RMC Commander assess the individual ship Maintenance and Modernization Business Plans against overall budget controls and

other regional maintenance funding issues and, if required, make adjustments. The result is a final Maintenance and Modernization Business Plan for each ship approved by the RMC and based upon budget authority from CNSL/CNSP N43. Any adjustments to the business plans are negotiated between the individual Maintenance Team and the RMC. The ship's Commanding Officer and the Maintenance Team members are required to maintain their ship within the fiscal guidance defined by the approved Maintenance and Modernization Business Plan.

(3) Technical expertise. In this role the Maintenance Team members assist the Commanding Officer in maintaining a current, valid CSMP that serves as the single authoritative source for all information on all maintenance requirements. All technical guidance and advice provided by the members of the Maintenance Team must be in compliance with NAVSEA approved guidance and policy. Generally, the members of the Maintenance Team do not possess designation as a Technical Authority granted by the Commander, Naval Sea Systems Command. In instances where action by a NAVSEA Technical Authority is needed, the NSA representative on the Maintenance Team shall obtain this authorization.

(4) Availability coordination. The Maintenance Team, in support of the RMC, develops, plans, and coordinates scheduled availabilities, continuous maintenance opportunities, and emergent repairs of assigned ships within the resources provided. The TYCOM Type Desk (or designate), in support of the Maintenance Team shall enter CNO availabilities and associated routine tasks and authorized Fleet and Programmed Alterations, in 2-Kilo format into the RMAIS at approximately A-540. The Maintenance Team, as a result of its familiarity with the ship and the maintenance requirements, serves as the RMC point of contact in coordinating maintenance and planning activities. The maintenance team concept facilitates the orderly conduct of work candidate determination, validation and brokering, however functions which affect the contractual process can only be performed by certain designated individuals. When necessary, the determination of Urgent and Compelling circumstances will be made by the RMC Commander or his designated representative.

d. Port Engineer: The individual charged with the responsibilities as the Team Coordinator of the ship’s Maintenance Team. The Port Engineer is the first point-of-contact for maintenance screening and brokering at the RMC, and is the manager of all maintenance requiring off-ship assistance. As the Team Coordinator, the Port Engineer ensures that the

Maintenance Team supports the ship and RMC maintenance goals while complying with CNSP/CNSL maintenance and modernization policies, budgets, appropriate technical direction, and RMC guidance. The Port Engineers provide long-term continuity and expertise to the Maintenance Team in the execution of its duty to assist the ship’s Commanding Officer in defining maintenance requirements and in managing maintenance to maximize readiness while addressing long term maintenance issues which may affect the ship years in the future. Port Engineers act in a technical advisory role. Port Engineers are generally commercial marine engineering professionals with a BS degree in marine engineering, a minimum of five years operating experience, and a US Coast Guard engineer license. A small number of uniquely experienced Navy engineers who obtain a US Coast Guard engineering license are also important members of the Port Engineer cadre. The Port Engineer cadre consists of a mix of government and contractor personnel. This mix is designed to provide and maintain the highest quality and skills as well as to promote the infusion of best practices from the private sector while also offering a stable workforce and the most flexibility to respond to operational and programmatic needs. Because there is government review and approval of all Port Engineer recommended actions by the ship's Commanding Officer and by the cognizant RMC Commander, the Port Engineer functions contained in this notice are deemed non-inherently governmental in nature in accordance with Federal Acquisition Regulations (FAR) subpart 7.5. Contractor Port Engineers act in an advisory role and do not exercise approval or acceptance authority. All final decisions must be made by authorized government personnel. Contractor Port Engineers do not supervise government personnel; neither do government personnel supervise contractor Port Engineers. Contractor Port Engineers are provided daily direction and get written evaluations from their company supervisor/manager. Government Port Engineers are provided daily direction and get written evaluations from their government supervisor. Both work within local business rules as guidance and in accordance with the decisions made by the ship's Commanding Officer. Overall Port Engineer policy and program administration will be provided by the FFC/SURFOR Senior Port Engineer.

e. Combat Systems Engineer: Combat System Engineers are Navy experts with ten years or more of specific experience in ship operations and maintenance of combat systems equipment and systems on Navy ships. This individual supports the Maintenance Team by providing specialized combat systems support, work definition, and guidance.

f. Planning Board for Maintenance (PB4M): The regularly scheduled meeting between the ship’s Maintenance Team and the ship’s leadership to discuss shipwide maintenance issues. Chaired by the Commanding Officer, this forum provides a review of current planned off-ship and organizational maintenance, CSMP quality and accuracy, future maintenance and modernization planning, and fiscal concerns. The objective is to ensure clarity of intent for both the ship’s efforts and the shore infrastructure with respect to total ship maintenance, operational schedules, and other concerns affecting ship material readiness. While the frequency of Planning Board for Maintenance meetings may vary due to a ship’s schedule, a minimum of one meeting per month is expected. The core agenda for the PB4M is provided as Enclosure (1) to this notice.

g. Maintenance Support Tool (MST): MST is a NMCI approved software tool developed to assist the ship's maintenance teams in the performance of their responsibilities as outlined in this notice. MST utilizes the ship's maintenance requirements by loading the ship's CSMP data from the assigned Ship's Regional Maintenance Automated Information System (RMAIS) database or Shipboard AIS systems such as SNAP, OMMS or OMMS NG and other required maintenance tasks and configuration data from NAVSEA 04's Integrated Class Maintenance Plan (ICMP) and Configuration Data Manager's Database-Open Architecture (CDMD-OA), respectively. MST is then used to automatically match the configuration (SCLSIS) data on a 2-Kilo against the most current configuration data. Where applicable, MST provides the Maintenance Team with the means to correct a 2-Kilo. This correction is then fed back to the ship for placement into the existing SCLSIS feed back process (see Enclosure (2)). MST automatically calculates the Maintenance Figure of Merit (MFOM) from static SCLSIS databases and dynamic data pulled from each CSMP entry. This allows the MT's to prioritize all jobs within the ship’s CSMP file. Utilization of the MFOM is covered in Enclosure (3). In addition, MST allows the remote screening, brokering, validation, estimating and correction or enhancement of the block 35 statements. This can be done at the Planning Board for Maintenance (see Enclosure (1)). When the MT determines a CSMP entry is maintenance ready it can then remotely authorize the work or initiate job close out for the work and upline the job or jobs to the ship or RMAIS. MST will assist in the transition to NEMAIS. Full implementation of MST, in conjunction with the RMAIS 1.4 rollout, including training, is expected to complete by 30 May 2005.

h. Maintenance Figure of Merit (MFOM): MFOM is a method of assigning a priority to a maintenance candidate to facilitate the maintenance team's management of the ship's maintenance requirements. The MFOM is described in Enclosure (3). SWLIN tables used by MST/RMAIS to provide Mission Criticality Codes (MCC) and severity codes for calculation of the MFOM have been updated to eliminate many of the "0" MFOM problems previously occurring for certain SWLINS including the 800/900 SWLINs.

5. Maintenance Process Description:

a. The process of getting the needed maintenance actions accomplished begins with these major steps:

(1) Discovering Work. Work is discovered during routine operations, PMS, and scheduled ship's force and off-ship material assessments, assist visits, and during availabilities. All off-ship assessments shall use common assessment procedures provided in the PMS ICMP database. The Maintenance Team adds class maintenance plan tasks, availability support routines and TYCOM scheduled maintenance alterations (Fleet alts) to scheduled availability work packages, while the PEO and SYSCOMs add modernization alterations (Program alts).

(2) Documenting Work. All work is documented in the CSMP. The importance of documenting all maintenance requirements cannot be over emphasized, as the CSMP is the basis for all funding. Only work documented in the CSMP is authorized for accomplishment. An accurate, up-to-date CSMP is the mark of a thorough Commanding Officer and is essential for a well maintained ship. Proper CMSP management includes updated 2-Kilos for growth work and new 2-Kilos to document new work identified during availabilities. Reference (c) directed changes to the shipboard 2-Kilo review chain to eliminate the requirement for Division Officer and Department Head reviews of work candidates. In addition to establishing the LCPO as the 2-Kilo approval authority, the LCPO shall be listed in the entry for second contact/supervisor (block 40). The chain of command will continue to be accountable for detailed knowledge of material deficiencies in their equipment and systems.

b. The CSMP consists of two files, the shipboard file and the shore file.

(1) CSMP shipboard file. The shipboard file contains all known material discrepancies. It is upline reported at least twice weekly to the shore file. All routine material

discrepancies are documented in the CSMP shipboard file within twenty-four hours of discovery and are internally reviewed and ready for routine upline report within seven days. Emergent repairs (C3/C4 CASREPS) are documented and upline reported within four hours. C2 CASREPS are documented and upline reported within 24 hours. Inspection, assist, material assessment, and training individuals and visit teams discovering material discrepancies document the discrepancies as work candidates either directly in SNAP/OMMS or in electronic files which they clerically assist ship's force in loading into SNAP/OMMS before leaving the ship. During material assessment and assist visits, upline reports may be required daily. Uplines of the shipboard file can overwrite data fields on the shore file. Ship’s force shall coordinate any updates to the CSMP with the Maintenance Team to help ensure previous updates to the shore file are not overwritten.

(2) CSMP shore file. In addition to the material discrepancies upline reported from the shipboard file, other work identified and funded by shore based managers, such as scheduled class maintenance (“pushed” ICMP assessments and “pulled” ICMP assessment and maintenance tasks (Q Tasks)), alterations, availability support requirements and history data are entered on the CSMP shore file. Although only on the CSMP shore file, this work is visible to ship's force through the ship’s Maintenance Team. Since the shore file can be overwritten by the shipboard file, it is imperative that Maintenance Teams validate, screen, broker and authorize work in a timely fashion. Prompt processing of CSMP work candidates mitigates potential overwrite of maintenance team information on the shore file and eliminates rework. This is because after a 2-Kilo is “Authorized” or “Referred”, RMAIS passes the 2-Kilo to the planning activity. If the RMAIS entry is later overwritten by a ship upline, the information previously passed to the planning activity is not affected. MST will facilitate the discovery of any changes to the shore CSMP by the ship. The MT can determine whether to accept or reject the changes until the job is “authorized” or “referred”.

c. Validating Work Candidates. The Maintenance Team validates work candidates before screening them to the planning activity. This is accomplished by the Maintenance Team’s personal shipboard observation of conditions, knowledge of the quality of work candidates written by selected work centers, or through additional technical assistance. The Maintenance Team may write a new work candidate, correct an existing one, or return any work candidate to the author that lacks sufficient data, description, or clarity and which cannot be corrected

without the author's assistance. If the work candidate is corrected by the maintenance team, the correction will be documented and a copy of the 2-Kilo will be returned to the author for process improvement. The Maintenance Team may generally assume that work candidates written by independent technical experts or assessment personnel are valid and correctly describe the extent of required repairs. The Maintenance Team provides an initial cost estimate for each job, either through personal expertise or through the planning activity. Enclosure (2) discusses work candidate validation.

d. Screening and Brokering Work Candidates. The Maintenance Team reviews and screens work candidates continuously as they are documented. Work integration may entail screening multiple work candidates together when synergistic or separately when they interfere with each other. Work screening also entails selecting the appropriate level of repair and the best opportunity in which to accomplish the work. Brokering entails recommended assignment of the work to a specific level or activity. The Maintenance Team makes recommendations for work assignment to the lowest level of executing activity with the capability and the capacity to accomplish the work during the required time frame, filling public capacity first and following the guidance of the RMC Business Rules. Enclosure (4) discusses screening and brokering processes.

e. Management of ship maintenance is best performed by those individuals most familiar with the condition of the ship, budgetary considerations, and available workforce. For CNSF ships, the RMC resident Port Engineers and ships' Commanding Officers lead the Maintenance Teams in the day-to-day maintenance focus while ships' crews prepare for their operational missions. These team members accomplish their maintenance identification, planning, and execution with supporting functions from other commands and activities; however, the Commanding Officers and their Maintenance Teams manage ship maintenance support under the supervision of the RMC Commander.

f. The waterfront maintenance teams are supported by RMC ship Type Desk personnel, TYCOM Type Desk Program Managers, NAVSEA, and NAVSEA field activities. They provide support in assessing material condition, determining maintenance requirements, identifying and programming ship modernization, and funding and contracting issues. These entities are an important part of the ship maintenance process and will continue to support the Maintenance Team and the RMC efforts. Because the Maintenance Team represents the needs of the ship their

requests shall take precedence over other activity priorities except in the authorization and execution of fleet and program alterations.

6. Action

a. All maintenance work requirements will be derived from ICMP material condition assessment procedures and scheduled modernization, Port Engineer observations, and ship’s force CSMP corrective maintenance requirements.

b. All material condition assessments, including HM&ERA, C5RA, SEMAT, etc., shall be derived from the scheduled (pushed) and unscheduled (pulled) condition assessment tasks within the ship's ICMP. The Maintenance Team shall review all scheduled ICMP tasks and determine which assessment maintenance candidates will be brokered for accomplishment to an assessing activity. Scheduled ICMP tasks deferred by the Maintenance Team will be reviewed by the TYCOM. If the TYCOM agrees with deferral, the cognizant Technical Authority will review the recommendation and advise the NAVSEA/PEO Ship Project Manager. The SPM will either approve the deferral or advise the TYCOM of non-concurrence. Scheduled tasks that are due but not accomplished shall be transferred from the ICMP to the CSMP shore file, annotated with the reason(s) for not accomplishing the assessment task, and then the completed work candidate shall be passed to history. A single set of validated ICMP assessment procedures is being incorporated in the PMS for use by all assessment teams, beginning with Force Revision 2-04. Assessment procedures not included within the ICMP, such as local practices, ISEA unique items, etc., shall be forwarded to NAVSEA 04RM for review and approval as an acceptable addition to the ICMP. If not approved for use and incorporation in PMS, use of these procedures shall be discontinued.

c. Work candidates shall be classified as CNO, CM, emergent or unfunded through the use of consistent definitions regardless of the executing activity. Consistent definitions facilitate analysis of metrics.

(1) Emergent maintenance is defined as work that is to correct a C-3 or C-4 CASREP, or a deficiency with the potential to become a C-3/C-4 CASREP. The Maintenance Team will evaluate emergent work candidates and validate the need to expend additional resources or premiums to correct the discrepancy at the earliest opportunity rather than at a more opportune time with lower costs. This determination will take into account the ship's operational schedule and material condition, as well as

available resources of potential maintenance providers, prior to classifying a work candidate as emergent work. As the MFOM data is refined, further determination of emergent work will be developed.

(2) Continuous maintenance (CM) actions are defined as work candidates which request corrective actions, assessments, groom, or assist visits and for which planning can determine an optimal time for accomplishment of the work.

(3) All work candidates accomplished during a CNO scheduled availability are considered as CNO avail scheduled work vice continuous maintenance or emergent work.

(4) Work candidates which are of such low MFOM that there is no reasonable likelihood that they would ever be funded, will be screened to the unfunded availability (UNF) as defined in Enclosure (5).

d. The priority assigned to each work candidate has a direct bearing on the MFOM value calculated for each JSN. Enclosure (6) is provided to help maintenance personnel determine the proper priority for both CASREP and non-CASREP work candidates.

e. The Maintenance Team will make the preliminary determination of the most appropriate source for all off-ship maintenance for its assigned ships.

f. A uniform method of specifying availabilities is an essential part of availability management and data collection. The business rules for availability numbering are provided in enclosure (5). No deviation from these protocols is permitted.

7. Metrics: The validation, screening and brokering processes will be measured using the Basis for Measurement (BFM) established by the SHIPMAIN Requirements Cross Functional Team (CFT-1). Enclosure (7) provides details of the established BFMs. Bridge Plot (BP) data the BFMs refer to is available on the SHIPMAIN metrics web site http://www.spear.navy.mil/SHIPMAIN and the NAVSEALOGCEN website http://www.maintenance.navy.mil/shipmain.

//SIGNED//
P. H. GREENE, JR.
Deputy and
Chief of Staff

Distribution:
SNDL Part 1 and 2
21A1 Commander, U.S. Atlantic Fleet
21A2 Commander, U.S. Pacific Fleet
24A1 Air Force Commander LANT (COMNAVAIRLANT)
24A2 Air Force Commander PAC (COMNAVAIRPAC)
24D Surface Force Commanders (COMNAVSURFPAC/COMNAVSURFLANT)
24G Submarine Force Commanders (COMNAVSUBLANT/COMNAVSUBPAC)
25 Mine Warfare
25A1 Mine Countermeasures Divisions And Squadrons
26A1 Amphibious Group LANT
26A2 Amphibious Group PAC
26C Beach Group
16E1 Amphibious Unit LANT
26E2 Amphibious Unit PAC
26J1 Afloat Training Group and Detachment LANT
26J2 Afloat Training Group and Detachment PAC
26T1 Regional Support Group and Detachment, LANT
26T2 Regional Support Group and Organization PAC
26U2 Southwest Regional Maintenance Center
26Z1 Shore Intermediate Maintenance Activity LANT
26Z2 Shore Intermediate Maintenance Activity PAC
28A1 Carrier Group LANT
28A2 Carrier Group PAC
28B1 Cruiser-Destroyer Group LANT
28B2 Cruiser-Destroyer Group PAC
28C1 Surface Group and Force Representative LANT
28C2 Surface Group and Force Representative PAC
28D1 Destroyer Squadron LANT
28D2 Destroyer Squadron PAC
28F2 Logistics Group Western Pacific
28J1 Combat Logistics Squadron LANT
28L1 Amphibious Squadron LANT
28L2 Amphibious Squadron PAC
29A1 Guided Missile Cruiser LANT (CG)
29A2 Guided Missile Cruiser PAC (CG)
29C1 Patrol Coastal LANT (PC)
29C2 Patrol Coastal PAC (PC)
29E2 Destroyer (DD) LANT, 963 Class
29E2 Destroyer (DD) PAC 963 Class
29F1 Guided Missile Destroyer LANT (DDG)
29F2 Guided Missile Destroyer PAC (DDG)
29AA2 Guided Missile Frigate LANT (FFG)
29AA2 Guided Missile Frigate PAC (FFG)
30 Mine Warfare Ships
31A1 Amphibious Command Ship (LCC) LANT
31A2 Amphibious Command Ship (LCC) PAC
31G1 Amphibious Transport Dock LANT (LPD)

31G2 Amphibious Transport Dock PAC (LPD)
31H1 Amphibious Assault Ship (LHA) LANT
31H2 Amphibious Assault Ship (LHA) PAC
31I1 Dock Landing Ship LANT (LSD)
31I2 Dock Landing Ship PAC (LSD)
31N1 Multi-Purpose Amphibious Assault Ship LANT (LHD)
31N2 Multi-Purpose Amphibious Assault Ship PAC (LHD)
32H1 Fast Combat Support Ship LANT (AOE)
32H2 Fast Combat Support Ship PAC (AOE)
32X1 Salvage Ship LANT (ARS)
32X2 Salvage Ship PAC (ARS)
32DD1 Submarine Tender LANT (AS)
32DD2 Submarine Tender PAC (AS)
32KK Miscellaneous Command Ship (AGF)
A1J1L PEO SHIPS (PMS400/PMS377/PMS325)
FB30 SHIP REPAIR FACILITY (NSRF Yokosuka, Japan)
C31G Ship Repair Facility Detachment, PAC (Sasebo, Japan)
FA8 Fleet Technical Support Center LANT
FB8 Fleet Technical Support Center PAC
FB29 Naval Intermediate Maintenance Facility PACNORWEST
FKA1G Sea Systems Command (SEA 04/SEA 02)
FKP7 Shipyard (PSNSY, PHNSY, NNSY only)
FKP8 Shipbuilding, Conversion And Repair, USN
FT88 Engineering Duty Officer School
FT43 Surface Warfare Officers School Command
SURFMO Yokosuka, JA
SURFMO Sasebo, JA

PLANNING BOARD FOR MAINTENANCE (PB4M)

1. Background: Traditionally, Navy ship maintenance was broken into two distinct thought processes. There was work to be accomplished continuously by the ship's crew and maintenance that required off-ship support. This consisted of intermediate, depot and other off-ship technical maintenance support. In the past, discussion of ship maintenance was normally done once per maintenance cycle and was driven by CNO Availability planning milestones. This was the only time total work package integration occurred with consistency. With the advent of continuous maintenance more work was being executed outside of CNO scheduled availability periods without a formal planning process. Therefore, one of the primary areas identified by SHIPMAIN for improvement was the overall maintenance planning process. One of the key initiatives for this is the Planning Board for Maintenance (PB4M). This enclosure will discuss the intent, outline the procedures and provide a recommended agenda for the conduct of this meeting.

2. Discussion: When discussing past problems with the maintenance planning process, several major areas are always identified. These areas are inaccurate CSMP's (which includes work already accomplished or insufficient, wrong logistical or technical data), work integration issues (two or more activities scheduled for work in the same area at the same time), improper prioritization of work (actual ship operational schedule not identified), and finally no visible long or short-term maintenance plan. By instituting the PB4M, the Maintenance Team and the ship's leadership will continuously work together to develop and implement a cohesive short and long term maintenance plan that addresses the issues described above. In addition, it is expected this will become the forum for discussing all maintenance issues, including metrics that are currently used to measure the maintenance effectiveness of the ship and the performance of the ship's assigned Maintenance Team. Government employees will be responsible for all PB4M decisions.

3. Business Rules: The following business rules will be incorporated by each maintenance team and their ship:

a. The frequency of the PB4M meetings may vary due to a ship's schedule; a minimum of one meeting per month is expected.

b. The meeting will be chaired by the Commanding Officer.

c. PB4M attendees shall be MT members, ship's department heads, and other ship's company as appropriate.

d. The Port Engineer will prepare the agenda and forward it to the Commanding Officer 48 hours in advance. Copies will be sent electronically to all core members of the Maintenance Team, the FFC/SURFOR Senior Port Engineer (Douglas.Briscoe@navy.mil) and the TYCOM Type Desk Program Manager.

e. PB4M will be 1 hour or less.

f. The agenda shall include the following topics:

g. Ship name

h. Date of the meeting

i. Known schedule of key events
   1. Upkeep periods
   2. INSURV
   3. Ship special evolutions
   4. Assessment Visits
   5. COC/DH changes
   6. Assist visits/AIT/surveys, etc.
   7. New items to be discussed

j. CASREP/DFS
   1. Status (enclosure to agenda)
   2. New (anticipated)

k. Current Maintenance issues
   1. Provide applicable JCN with block 35 & work status (enclosure to agenda)
   2. Discuss current issues/problem areas
   3. Review and updating of the Ship’s Maintenance and Modernization Plan

l. Advance Planning milestones/CNO avail issues (Dates)
   1. Specification review
   2. Upcoming Work Package Integration Conferences (WPIC)
   3. Major events to support – Ammo off-load
   4. Arrival Conference
   5. Avail dates
   6. Production Status
   7. Dock trial/Fast Cruise/Sea Trial Dates
   8. New Issues

m. CSMP review
   1. As screened report (shows where all off ship jobs are screened) (enclosure to agenda)
   2. TA-4 jobs (enclosure to agenda)

(a) Completed
(b) New (integrate/de-conflict) with other known work
(1) Compare location
(2) Compare equipment/system
(3) Compare priority
(c) Screened to SF avail (Assist ship with assigning SF avail with dates)
(1) Concurrent CNO
(2) CM – planned accomplishment
(3) Emergent – unplanned accomplishment

3. Work candidate return to ship issues (enclosure to agenda)
4. Work candidates older than 180 days (enclosure to agenda)
5. Work candidates to be passed to history (enclosure to agenda)
6. Long Term Maintenance Plan
7. 5 year plan (developed by MT) (enclosure to agenda)

n. CNO availabilities
1. PMS ICMP Assessments
2. Certifications
3. Modernization
4. Homeport
5. Preservation
6. Integrated System refurbishment
7. Discuss issues and update

o. Current Metrics

p. Ship/CO Maintenance/Maintenance Team Issues

4. Summary: The objective of the PB4M is to ensure clarity of intent of both the ship’s efforts and the shore infrastructure with respect to total ship maintenance, operational schedules, and other concerns affecting ship material readiness. CSMP quality and overall communication/planning is expected to improve with this process as well. All will be part of the current metric measurement process.

VALIDATION BUSINESS RULES

1. Background: All work requiring an expenditure of man-hours, material, or a combination of both requires a work candidate to document the identified requirement. This document requires certain information to be included by the identifying activity to support the maintenance request. This document may be authored by activities other than the affected ship. Validation is the process of reviewing a work statement to ensure that there is enough information to determine if the work candidate is required (*objective evidence*) and, if valid, contains enough information to:

a. Properly determine the correct resolution,
b. Screen to the right maintenance period to support ship operations, and
c. Broker to the right activity to perform the work at the most practicable level, or
d. Pass to history

There are three levels of the validation process.

(1) *Initial validation* is the review of the original work statement to determine if there is enough information for the Maintenance Team to understand the requirement. The work candidate is returned to the originator if additional information is required.

(2) *Requirement validation* is the responsibility of the Maintenance Team. The Maintenance Team determines whether there is real need (objective evidence) and, if so, verifies the requirement's urgency.

(3) *Final validation* is the responsibility of Maintenance Team to ensure that the scope of work is adequately defined and technically accurate before authorizing. This becomes the final product screened and brokered to a planning or execution activity.

2. Discussion: A valid work candidate will provide the following key data elements at a minimum. The blocked numbers to the right of each item refer to a 4790/2k data block.

a. Configuration Information:
   (1) Ship UIC [1]
   (2) Work Center (JCN) [2]

	(3) Job Sequence Number (JSN)	[3]
	(4) APL/AEL	[4]
	(5) Ship Name	[A]
	(6) Ship Hull Number	[B]
	(7) Equipment Noun Name	[5]
	(8) Equipment Status Code	[7]
	(9) Equipment Identification Code (EIC)	[14]
	(10)Location	[16]
b.	When Discovered Date	[17]
c.	Deferred Date	[26]
d.	Symptoms and Supporting Info	[35]
e.	First Contact Name	[38]
f.	Priority	[41]
g.	TA – (Recommended Accomplishment Level)	[42]
h.	Required Delivery Date	[28]
i.	Ship Work Line Item Number (SWLIN)	[56]
j.	Recommended resolution	[35]
	(1) MSC, if applicable	
	(2) PE Notes	
	(3) Applicable references	
k.	Maintenance Action Requested	[35]
	(1) Assessment	
	(2) Repair	
	(3) Modernization	
l.	Maintenance Figure of Merit - Integrated Priority Number	[43]
m.	Initial Estimate (man days & material)	Shore File
n.	TYC Code	[45]

3. Business Rules: After a work candidate is written, forwarded by an assessment activity, or provided and entered into the CSMP shore file it will be reviewed by the Maintenance Team. The Maintenance Team will use the guidelines below to validate each work statement.

a. Initial validation will be conducted on each new work candidate to ensure there is sufficient information to understand the requested maintenance action. The originator must complete data elements a. through g. above. If the ship is the originator then data element h. must also be present. All work candidates without these elements will be returned to the originating activity for correction, and/or inclusion of the requested information. Measurement of returned work candidates is captured as one of the process metrics.

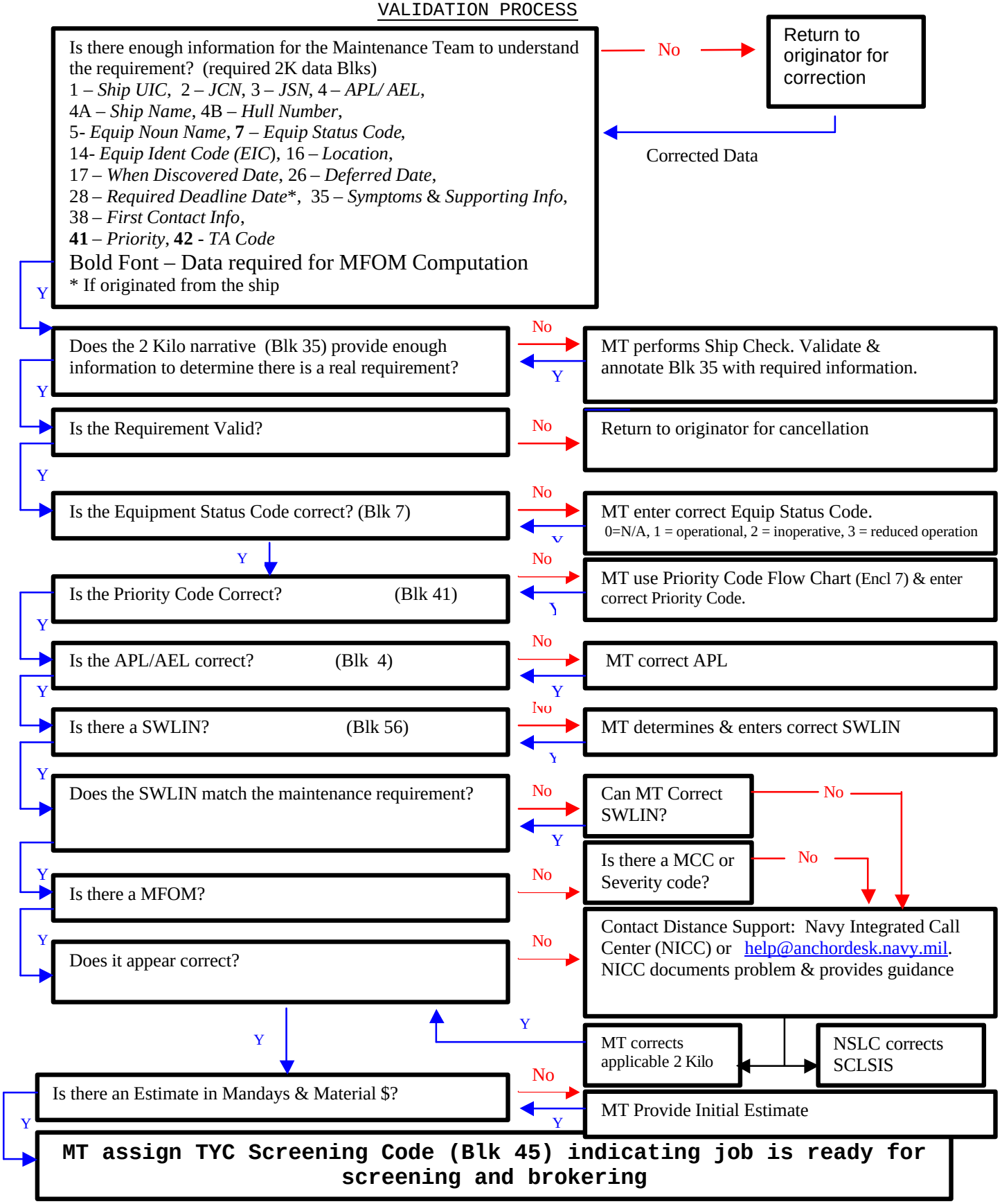
b. When an initially validated work candidate is accepted as complete, the Maintenance Team will then determine if there is enough objective evidence of need to validate the requirement. If not valid, the work candidate will be returned to the originator and cancelled.

c. All validated off-ship work candidates will be ship checked by the Maintenance Team when practicable. The purpose of this check is to determine the best maintenance action and add to block 35 (data elements 2.j. & 2.k.). Validation of each job shall include review and correction, if warranted, of the Equipment Status Code (data element 2.a.(8)), Priority Code (data element 2.f.), APL/AEL (data element 2.a.(4)) and SWLIN (data element 2.i.). The Maintenance Team may request additional assistance to determine and document the best corrective action. The recommended action will include all pertinent interferences, integration issues, verification of urgency and an initial estimate in man-days and material cost (data element m). MFOM (data element 2.l.) will also be reviewed by the MT for completeness and accuracy. MFOM is discussed in more detail in Enclosure (3). When validation is complete, the Maintenance Team will assign a TYC Screening Code (data element n) to the work candidate indicating the job is ready for screening and brokering. See attached Validation Process Flow Chart.

4. Summary: The goal of the validation process is to provide a work candidate that is sufficiently defined, contains correct and complete information, provides an accurate diagnosis, and provides an applicable, effective, and feasible recommended resolution. A properly validated work candidate should allow the planning and executing activities the ability to understand the requirement and not to expend additional manpower or time obtaining needed information.

COMNAVSURFORNOTE 4701
29 Dec 04

VALIDATION PROCESS



MAINTENANCE FIGURE OF MERIT (MFOM) BUSINESS RULES

1. Purpose: To establish Business Rules for using Maintenance Figure of Merit (MFOM) calculations to prioritize jobs for accomplishment or deferral.

2. Background: The ultimate goal of the maintenance community is to complete jobs at the right time, in the right place, and for the right cost. Too often, premiums may be paid for job accomplishment because a job necessity was over-stated, the job did not receive the right amount of emphasis during validation, or maintenance resources capacity loading principles were not applied.

3. Description: The Maintenance Figure of Merit (MFOM) is a numerical expression indicating the criticality of a job and provides a sequentially ranked CSMP in order of priority. The MFOM can prioritize work within each work center and will assist the Maintenance Team in prioritizing off-ship maintenance requirements through an established discipline in the use of premium resources. The MFOM may be used to measure an individual work candidate against a TYCOM established standard. The TYCOM can use the MFOM to measure CSMP content, the differences in ship material condition, and establish a capability-based level of readiness (MFOM threshold). An MFOM helps to assure those jobs deemed most critical to mission accomplishment will receive priority maintenance resources.

4. MFOM Business Rules: The MFOM will be generated by the Maintenance Team's Maintenance Support Tool (MST) and in the Regional Maintenance Automated Information System (RMAIS). Both systems use the same data and will generate the same MFOM number.

a. The following formula will be used to compute MFOM:

MFOM = (MCC/PRI)x(S/100)x(STm)x(SFSCRm)x(12.5) (Note 1)

Where:
MCC = Mission Criticality Code from CDM-OA, SCLSIS, and MRS
PRI = Priority as reported by ship
S = MRS severity
STm = Modified job status (ST) (Note 2)
SFSCRm= Ship's force screening modified (Note 3)

Note 1: MFOM values calculated to be in excess of 100 will be automatically truncated to 100.

Note 2: STm is derived from the 2-Kilo, block 7, Equipment Status Code. The code is modified by assigning a numerical value to each of the codes. ESC 0 = 1, ESC 1 = 2, ESC 2 = 4 and ESC 3 = 2. This is done automatically by the MFOM algorithm and does not require any manual intervention.

Note 3: SFSCRm is derived from the 2-Kilo, block 42, TA Code initially and then TYC Code. The code is modified by assigning a numerical value to each of the codes. SFSC 1 (depot) = 4, SFSC 2 (intermediate) = 2, SFSC 3 (tech assist) = 3, and SFSC 4 (SF) = 1. This is done automatically by the MFOM algorithm and does not require any manual intervention. Accuracy of the SFSCRm is predicated on a correct assignment of the SWLIN, priority, and equipment status.

b. Each TYCOM will set MFOM Goals once per fiscal year for Emergent, CNO, and Continuous Maintenance work. Once the Emergent MFOM threshold is established, ONLY those work candidates that meet this threshold shall be funded using emergent dollars.

c. The TYCOM will measure each ship’s MFOM on a monthly basis to determine trends.

d. The Maintenance Team (MT) will ensure all work is listed on the CSMP and that all work candidates have validated SWLINs and estimates (MD & Material). The MT will use the MFOM to prioritize all off-ship work. The Maintenance Team (MT) will evaluate each MFOM generated by this formula during the requirement validation level of the validation process defined in reference (a), and ensure it is appropriate for the job. If the MFOM assigned is disputed, review the formula input (I.E. SWLIN, priority, equipment status code or TA screening code) and make corrections if required, but the MT is NOT authorized to change or adjust the actual MFOM assigned to a specific job.

e. The MFOM will generally be the major determining factor for availability assignment, but it is not the only factor. After evaluating the MFOM, the MT may make a decision to accomplish a job ahead of one of higher priority MFOM, however, the MT must provide justification for this action. The MT must specifically detail the operational impact of job completion and cost premiums involved in their decision. For example: A deficiency causing a major degradation in a primary mission area (resulting in a high MFOM calculation) *which impacts impending anticipated operations* will normally be corrected at the

earliest opportunity. On the other hand, the MFOM for a job to repair an OOC fire pump may be high, but if the ship is scheduled for a major maintenance period in the immediate future and the ship has sufficient redundancy, it may be more cost effective to defer the repair until the availability and avoid premiums. The MT decision to defer the repair should only be made in the context of ship readiness.

f. Timing is often a major factor in determining the cost to complete a job. This requires periodic revisiting of jobs by the MT to ensure opportunities to complete jobs before they become critical (thus incurring cost premiums) are not lost. The MT must remain cognizant of all jobs and take advantage of opportunities to complete low MFOM jobs if the timing is right. For example, a low MFOM TLI repair job originally deferred until a major availability may be completed in conjunction with an emergent tank repair job if doing so would eliminate the requirement to open and gas-free the tank as part of the major availability package.

g. Individual work candidates affecting one system or equipment may have low MFOM values when MFOM is calculated on the individual work candidates. The combination of a number of work candidates on a particular system or equipment may produce a collective MFOM higher than any of the separate MFOM values. The Maintenance Team is responsible for ensuring that an aggregated work candidate, one composed of several smaller work candidates, generates an accurate MFOM value.

5. MFOM Help: To assist Maintenance Teams in application of MFOM to their maintenance requirements, support is available from the Navy Integrated Call Center (NICC) (1-877-418-6824 or e-mail help@anchordesk.navy.mil) to resolve MFOM-related queries. If the process displayed in the Validation Flow Chart (Attachment (1) to Enclosure (2)) does not resolve the MFOM question, contact the NICC. The NICC will ensure all questions are documented and timely feedback is provided. There will likely be a few job types that still require some supporting software table corrections or additions to permit generation of an accurate MFOM. As identified, these instances will be actively worked to resolution.

SCREENING, SCHEDULING AND BROKERING PROCESS AND BUSINESS RULES

1. Background. Although accomplished simultaneously, screening/scheduling and brokering are actually two distinct activities:

a. Screening/scheduling. Schedules the work candidate for the right time period and maintenance availability. Considers balancing operational schedule, material readiness requirements and cost concerns to maximize maintenance productivity (material readiness/related maintenance cost).

b. Brokering. Assigns and authorizes (or refers) the right activity to perform the work based on business case analysis, material availability, experience, tool requirements, personnel requirements, special considerations (Environmental, Health and Safety (EH&S)) and capacity. Ships undergoing preparation for decommissioning are required to document material deficiencies in the CSMP up to the date of transfer. These jobs will require appropriate screening. Valid work candidates that must be completed prior to transfer will be screened to an availability and brokered to the appropriate maintenance activity for completion during any availability period prior to transfer. Work candidates that are not required to be completed prior to transfer will be screened to the unfunded availability.

2. Discussion.

a. The validated work candidate contains the key data elements listed in Enclosure (2) to aid in the screening and brokering process.

b. Work candidates will be brokered to the lowest level of maintenance activity capable and with the capacity to accomplish the work during the required timeframe, filling public sector capacity first.

c. Available capacity will be judged after applying MFOM and RCD.

d. The cause and effect relationship between screening and brokering must be exercised to maximize maintenance productivity. This may require negotiation with the ship and/or maintenance activity to adjust the RCD.

e. Other considerations for screening and brokering:

(1) Synergistic relationship between work candidates exists:

(a) Common tag-out

(b) Common access cut

(c) Common plant condition

(d) Common system test

(2) Splitting responsibility

(3) Third party access

(4) Maintenance Activity loading

(5) RMC Production Department training requirements

3. Business Rules.

a. After validation, screening and brokering will be accomplished continuously. The Maintenance Team uses the guidelines below to screen and broker work candidates to the proper availability activity.

b. Work candidates shall be:

(1) Scheduled for an availability;

(2) Assigned to a maintenance activity, customer or contract and authorized; or

(3) Referred

c. All individual screening and brokering decisions made by the Maintenance Team shall not be continuously reviewed and approved in a local, follow-on process. This rule does not preclude proper management monitoring and oversight.

d. Work candidates shall be screened to the correct availability in accordance with Enclosure (5).

e. Brokering shall be as follows:

(1) Work candidates for technical assistance, assessment or inspection will be assigned to the RMC.

(2) Work candidates will be brokered to the lowest level of maintenance activity, filling public sector capacity first, based on the following criteria:

(a) Material availability

(b) Capability:

1. Experience

2. Available Production Resource Tools (PRT)

3. Available qualified/certified personnel

4. Ability to comply with EH&S regulations

(c) Work center capacity

(d) Funding

f. RMAIS/MST transactions will be made in accordance with approved user guides.

AVAILABILITY NUMBERING SYSTEM

1. The lack of a consistent method of numbering surface ship availabilities has proved to be an impediment to readily collecting and analyzing maintenance related information as part of an ongoing process improvement effort. Availability is defined as a specified period of time during which maintenance is conducted. Availabilities are intended to include all work completed during a specific time period regardless of executing activity, therefore availabilities should not overlap and work by every activity (depot, IMA, AIT, tech assist and ship's force) should all be entered into the same availability. The emergent availability is the only exception to this rule and this will be addressed later.

2. The following describes the SHIPMAIN availability numbering system beginning with a one-digit availability category code, the three-digit availability serial number, and a two-digit funding activity code. The availability number consists of the first four digits, the availability category and the serial number. Only Type Desk Officers, Type Desk Program Managers, and Port Engineers are authorized to create availabilities and will enter the availability number. A fund account code will be used to identify the source of funding for any job; this code is separate from the availability number but is integral to the successful use of this system and is described in detail in the paragraph 2.c. The funding activity code is entered at the time of job screening and authorization and may be entered by the member of the maintenance team screening the job. Examples are provided at the end of this paragraph.

a. Availability Category Code: This code is the first character of the four-digit availability number in RMAIS. This is done in RMAIS by selecting the availability drop down menu to select the type of availability utilizing the selections in the dropdown box. These codes are used by all Force Commanders not just the Surface Force and therefore not all codes are applicable to surface ships. One unique change as a result of SHIPMAIN is that the stand alone "I" availability is no longer used and therefore the surface force does not use the "I" code.

The types of availabilities are listed below.

CODE	TITLE
A	ALONGSIDE SCHEDULED CONTINUOUS MAINTENANCE
B	DOCKING SELECTED RESTRICTED AVAILABILITY (DSRA)
C	SELECTED RESTRICTED AVAILABILITY (SRA)
D	COMPLEX OVERHAUL
E	EXTENDED INCREMENTAL SELECTED RESTRICTED
F	EXTENDED DOCKING SELECTED RESTRICTED AVAILABILITY (EDSRA)
G	EXTENDED SELECTED RESTRICTED AVAILABILITY (ESRA)
H	DOCKING INCREMENTAL SELECTED RESTRICTED AVAILABILITY (DISRA)
I	INTERMEDIATE MAINTENANCE AVAILABILITY
J	INCREMENTAL SELECTED RESTRICTED AVAILABILITY
K	INTERIM/EMERGENT DRY DOCK
L	DOCKING PHASED MAINTENANCE AVAILABILITY
M	PHASED PLANNED MAINTENANCE AVAILABILITY
N	INACTIVATION AVAILABILITY (INAC)
O	POST DELIVERY AVAILABILITY
P	CONTINUOUS AVAILABILITY (YEAR LONG CM)
Q	POST SHAKEDOWN AVAILABILITY
R	REGULAR OVERHAUL
S	SELF AVAILABILITY/SHIP TO SHOP AVAILABILITY
T	RESTRICTED AVAILABILITY
U	UNFUNDED
V	PLANNED INCREMENTAL AVAILABILITY (PIA)
W	DEPOT MODERNIZATION PERIOD
X	TECHNICAL AVAILABILITY/ASSESSMENT
Y	DOCKING PHASED PLANNED INCREMENTAL AVAILABILITY (DPIA)
Z	VOYAGE REPAIRS (PER TITLE X)/BFIMA
1	DOCKING PLANNED INCREMENTAL AVAILABILITY (DPIA1)
2	DOCKING PLANNED INCREMENTAL AVAILABILITY (DPIA2)
3	DOCKING PLANNED INCREMENTAL AVAILABILITY (DPIA3)
4	PLANNED INCREMENTAL AVAILABILITY (PIA1)

5 PLANNED INCREMENTAL AVAILABILITY (PIA2)

6 PLANNED INCREMENTAL AVAILABILITY (PIA3)

7 REFUELING COMPLEX OVERHAUL (RCOH)

b. Availability Serial Number: The availability serial number is the same three character serial field currently used in RMAIS. There are five serial codes used to designate availabilities. These availabilities are the alongside availability (XAZ), the CNO scheduled availability (XCZ), a year-long continuous maintenance availability (XCM), a year long emergent work availability (XEM), and a multi-year unfunded availability (UNF). This entry is made in the “serial” field of the RMAIS availability editor window. This entry is also used in NEMAIS Availability field. Enter the serial number in the NEMAIS user field "RMAIS Avail #" when creating level 2 Work Breakdown Structure (WBS). Each of these availabilities is defined in more detail below. The examples provided herein indicate that serial number assignment is sequential and that is clearly the desired use of the system. The occasion may arise when a significant schedule change allows for a new availability to be scheduled prior to an existing availability. In this unique case availability may be created using an out of sequence serial number. This eliminates the need to move jobs that are already screened in RMAIS, NMD and NEMAIS.

(1) XAZ Availabilities: The XAZ Availability is intended to be a planned CM availability, such as a CMAV, over a specified period of time determined by the ships operational schedule and takes place at a Naval Station. The Type Commander will schedule the availability during the normal fleet scheduling process. A nominal time frame for availability length is no less than two weeks and no more than six weeks. A ship is not to get underway during any period of the availability. There is no limit to the number of XAZ Availabilities that may be scheduled during a year. If the number of availabilities in a single fiscal year results in the Z character being greater than 9, alphabetical characters will then be used beginning with “A”. Availabilities may be scheduled in RMAIS for future years using notional time frames and the exact dates can be adjusted later once the exact schedule is promulgated. Job submission for any XAZ Availability must complete by A-40 to allow for proper planning and material procurement. All executing activities may be scheduled to work during this availability. If a job scheduled for completion is not started then it must be moved into another availability and the availability is to be closed

on the scheduled completion date. The fact that the job was not completed will be reported in the availability completion report.

(2) XCZ Availabilities: The XCZ Availability is the scheduled CNO Availability as promulgated in the OPNAV 4700 Note. These availabilities are normally conducted in a shipyard under the direct supervision of the NSA. All major modernization programs will be scheduled for CNO Availabilities. Other executing activities may conduct work during these availabilities pursuant to the contractual limits imposed by the shipyard and the Naval Supervising Activity. Notional CNO availabilities may be established for years beyond the scope of the OPNAV Note to support long-term work item placement. Other software programs require that only one contract solicitation may be recorded against a given availability, therefore the situation may arise when two availabilities must be simultaneously executed. In this case the same type of availability will be used and the next sequential number assigned.

(3) XCM Availability: The XCM availability is a year long availability for the scheduling and completion of work items that are not accomplished during any other scheduled availability. A job is not to be kept in the XCM availability if it is accomplished in an XCZ or XAZ availability; the job is to be moved into the appropriate availability.

(4) XEM Availability: The XEM availability is for the completion of emergent work items as defined in CNSF Note 4701 and paid for using emergent work funding. Items assigned to this availability will not be moved into any other availability and will remain in the XEM availability. Emergent work will not be conducted in a XCZ availability. Emergent work that is discovered during a CNO availability will be added to the availability and paid for using CM funding, for example, work required to support light off or sea trials.

(5) UNF Availability: The UNF availability is for those items for which there are no realistic expectation that they will be funded even in the out years but must be maintained for material history purposes. It is also for those jobs with an MFOM that is so low that there is a low probability of accomplishment, but the job remains valid. These jobs will be screened to the UNF availability but will not be authorized in RMAIS.

c. Funding Activity Codes (FAC): Proper use of the FAC is essential to the success of this system. The FAC is a two-

digit exportable field in RMAIS. A FAC must be entered for every 2K assigned to an availability. FAC is a mandatory entry for all surface force work. The FAC table is currently NAVSEA controlled. Any member of the maintenance team authorized to screen work may enter a FAC. The FAC is designed to be applied from a user perspective. For example, if NSWCCD / SSES plans to use an AIT to install an alteration and they are funded for the install, then the maintenance team would select the FAC for NSWCCD / SSES. The maintenance team is not expected to know if it was OPNAV or the Type Commander that funded SSES, this is beyond their level of knowledge and those agencies are expected to track their own funds. In this case a FAC of "IB" would be applied.

The approved FAC's are:

CODE	TITLE
AA	TYCOM CM NON-NUCLEAR
AB	TYCOM EM NON-NUCLEAR
AC	TYCOM DIVING SERVICES
AD	TYCOM FLEET ALTERATION (NON NUCLEAR)
AE	TYCOM FUNDED SEMAT (ETC) SHIPS FORCE ASSISTANCE
AF	TYCOM NUCLEAR MAINTENANCE/REPAIRS
AG	TYCOM NUCLEAR ALTERATION
AH	TYCOM FUNDED CNO SCHEDULED AVAILABILITY MAINTENANCE
BA	NAVSEA NUCLEAR ALTERATION
BB	NAVSEA ORDNANCE ALTERATION (ORDALTS)
BC	NAVSEA NON-NUCLEAR PROGRAM ALTERATION
BD	NAVSEA - UNIQUE - NON-NUCLEAR (INCLUDES ALT DEVELOPMENT, TECH SUPPORT)
BE	NAVSEA - UNIQUE - NUCLEAR AND/OR REFUELING
BF	NAVAL SHIPYARD MISSION FUNDED
BG	SRF MISSION FUNDED
CA	IMA FUNDED MAINTENANCE
CB	IMA FUNDED FLEET ALTERATION
DA	ADMINISTRATIVE SUPPORT NON-NUCLEAR (PRORATABLE) INCLUDING DSA FUNDED
DB	ADMINISTRATIVE SUPPORT SERVICES NUCLEAR (PRORATABLE)
EA	SHIP'S FORCE MAINTENANCE/REPAIRS

EB SHIP'S FORCE - SELF HELP HABITABILITY

FA TECHNICAL SUPPORT: SPAWAR SSC, RMC (MISSION FUNDED)

FB TECHNICAL SUPPORT: SPAWAR (SEPARATE FUNDING ONLY)

GA VRT-N, VRT-M, ALRE

HA NAVAIR (CAFSU, NAWC, FAA, ASIR)

HB NAEC LAKEHURST NJ

HC NAWC CHINA LAKE

HD NAWC PT MUGU

HE NAWC PAX RIVER

HF NAWCAD ST INIGOES MD

IA NSWCCD/DAVID TAYLOR

IB NSWCCD/SESS

IC NSWCCD/PHD

ID NSWC CRANE

IE NSWC PANAMA CITY

IF NSWC NEWPORT

IG NSWC KEYPORT

IH NSWC LOUISVILLE

JA SPAWAR (AIT)

KA ESU

OO OTHER - EXPLAIN IN REMARKS

VV VISITING SHIP SUPPORT (FOREIGN NAVY)

3. Example Cases: The following table provides examples of how the various codes can be applied to common availabilities.

Availability Category	Availability Serial	Fund Activity Code
A, K, X, Z	XAZ	AA, AC, AD, AE, BB, BC, FA, FB, VV, OO **(Note: 1)**
B, C, H, J, K, L, M, N, R, T, W	XCZ	AA, AC, AD, AE, AH, BB, BC, BF, DA, FA, FB, OO **(Note: 2)**
P	XCM	AA, AC, AD, FA, FB, OO **(Note: 3)**
P	XEM	AB, BF, BG, VV, OO **(Note: 4)**
U	UNF	NONE

Availability Numbering System Examples

Note 1: The primary fund activity code is AA for the alongside availability as most work is TYCOM funded maintenance. CNSL ships should not use codes CA or CB unless the IMA becomes a fleet funded activity as it is in the Pacific region. PACFLT ships would use CA for IMA work performed during this availability. The voyage repair Availability Category should be used for scheduled voyage repairs using either the AA or AB activity code as appropriate, the XEM avail should not be used for voyage repairs.

Note 2: The primary fund activity code is AH and a common additional code is BC. In LANTFLT any IMA work would use the AA code, PACFLT ships would use CA for IMA work performed during this availability.

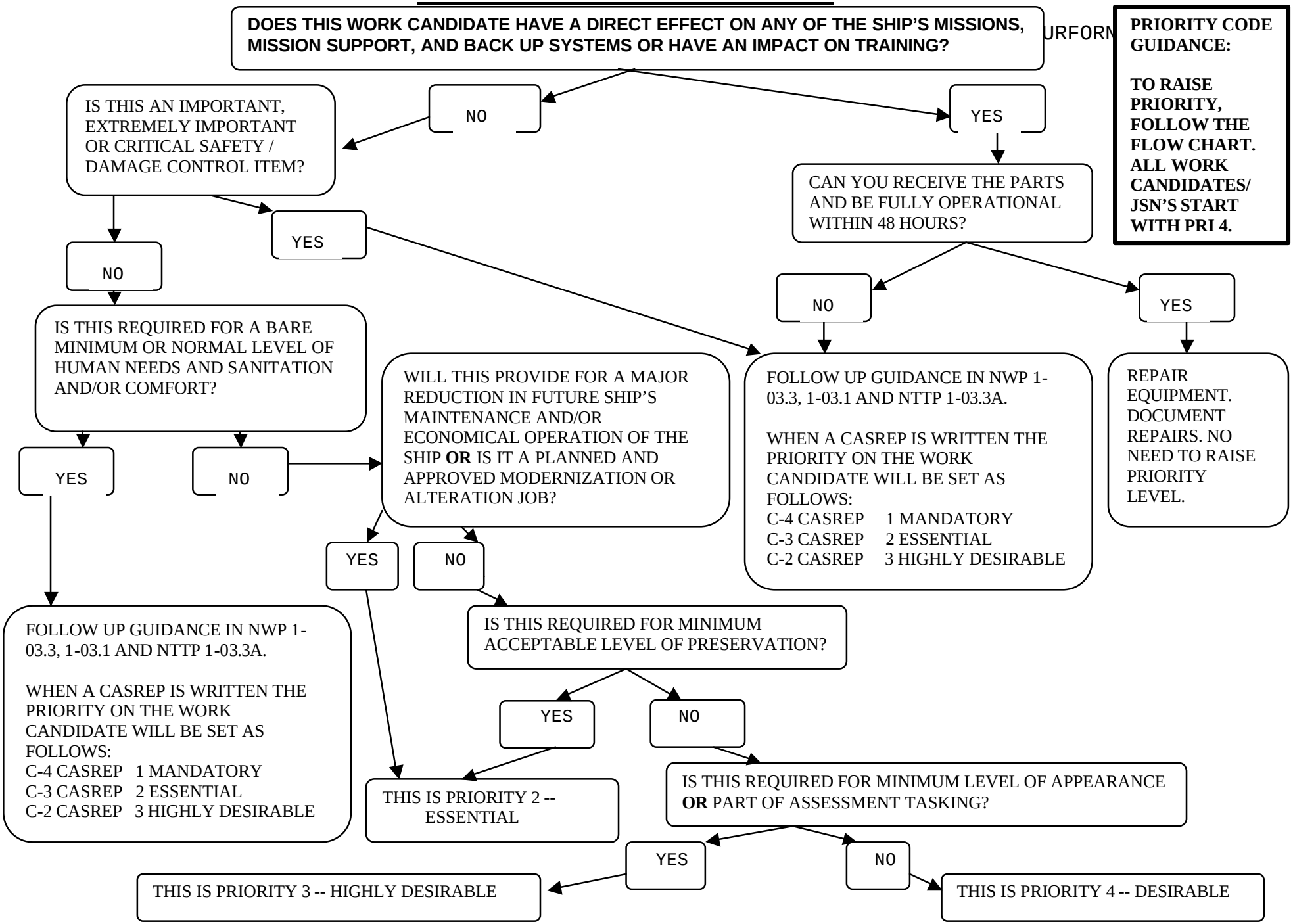
Note 3: Primary FAC is AA for TYCOM funded maintenance.

Note 4: Primary FAC is AB indicating ERATA expenditure. In some cases BF or BG may be used as dictated by each region. As an example, a ship entering a scheduled CNO docking availability for FY06 will have an availability number consisting a “B” for the Availability Category Code and the serial will use the XCZ format. The full availability number will be B6C1 as this will be the first CNO availability for this ship in FY 06. The “B” is entered in its own field in RMAIS as described above using the availability drop down menu. The three digit serial is manually entered in the “serial” data field of the RMAIS window. A ship entering an alongside three-week CM avail will use “A” as the Availability Category and the XAZ format for the serial. So the third alongside CM availability for FY 06 will be an A6A3 availability. Again the first digit and the last three digits are entered in separate RMAIS entry fields. The FAC is applied on a job-by-job basis and is not tied to the availability number. In a single availability you can have several executing activities and multiple FAC’s across all the jobs screened to the availability. For example Job EA04-1111 might be a pump repair screened to SUPSHIP and paid out of TYCOM CM funds so that job will have “AA” FAC assigned when it is screened to the A6A3 availability.

4. Discussion: Availability numbers, to include the category and serial numbers, are not to be used at local discretion. They are not to be used as a method of segregating the executing activity or the level of work performed. Proper use of other fields in RMAIS will cover these requirements. When used with MST this system results in significant flexibility in the management of availabilities while meeting the information needs of higher echelon commanders. Once MST is released and

authorized for full implementation, change control for this numbering protocol will be exercised via the same mechanism for change control for MST. It is imperative that RMAIS and MST be treated as a single integrated system to ensure proper data exchange. Therefore any changes to the numbering system, availability category table, or fund account codes must be approved and included as part of an MST change request as well as a RMAIS change request. Any changes to RMAIS that may affect MST must be presented for approval to CFT 1 before proceeding. If program elements are not changed and no NMCI interface is required then the table changes still must be properly reflected in MST.

WORK CANDIDATE PRIORITY FLOWCHART



REQUIREMENTS PROCESS METRICS

The following metrics are being tracked by SHIPMAIN, and are to be used to evaluate the effectiveness of SHIPMAIN process improvements.

1. On Time Delivery (OTD) Leading Indicator UNITS: 2Ks

MEASUREMENT DEFINITION: Number of CNO Availability 2Ks expected to be screened to the planning activity and the number of CNO Availability 2Ks which are actually screened. At any point relative to the start of the availability, there is a notional number of 2Ks that are expected to be screened to that availability. The actual number of 2Ks expected for each availability depends on the type of CNO availability and the ship class. The number of 2Ks expected for each availability will be determined by SHAPEC. The expectations for 2Ks screened to a CNO avail work package are as follows:

0% at A-720
50% at A-240
80% at A-120
93% at A-90
100% at A-75

Since it is expected that the flow of 2Ks into a work package will be continuous, intermediate values for each month will be extrapolated as a straight line between the points listed above. This leads to a table of monthly, expected 2K percentages as follows:

Days	Months	Expected %	Monthly %	Slope
0	0	100	100	
30	1		100	
60	2		100	
75	2.5	100	100	
90	3	93	93	
120	4	80	80	5
150	5		72.5	
180	6		65	
210	7		57.5	7.5
240	8	50	50	
270	9		46.875	
300	10		43.75	
330	11		40.625	
360	12		37.5	
390	13		34.375	

420	14		31.25	
450	15		28.125	
480	16		25	
510	17		21.875	
540	18		18.75	
570	19		15.625	
600	20		12.5	
630	21		9.375	
660	22		6.25	
690	23		3.125	3.125
720	24	0	0	

For each avail, the expected number of 2Ks which should be screened to the work package is given by multiplying the notional number of 2Ks for that avail (provided to the Type Commander by SHAPEC at described above) times the monthly expected percentage as shown in the table above.

In addition, a “control band” of plus and minus 10% will be plotted along with the expected number of 2Ks expected for a given A-XX number.

The ship class notional number of 2Ks provided by SHAPEC are as follows:

SHIPCLASS	SRA	DSRA
ARS50	115	260
CG47	160	210
DD963	160	260
DDG51	152	265
FFG7	160	260
LCC19	325	475
LHA1	500	1300
LHD1	500	1300
LPD1	210	290
LPD4	325	475
LSD36	325	475
LSD41	325	475
LSD49	325	475
MCM1	129	146
MHC51	81	68

The purpose of this metric is to provide an early warning indicator for the CNO OTD Metric. The metric helps MTs, with RMC oversight, to track the rate at which 2Ks are being screened

and brokered (authorized/referred) to CNO Availability work packages. This will smooth the flow of work to Planning and assist the MT in meeting the CNO Milestones.

CALCULATION: For each availability:

Each month end, for availabilities of interest, count the total number of 2Ks screened to the availability in RMAIS and the total number of 2Ks expected to be screened at that point in time. To be of interest, a CNO Availability must be within 720 days of start, but not yet started (A-720 to A-0).

For “roll-up” calculations (by ship class, by port, by fleet, etc), the calculation is:

The sum of 2Ks screened to all availabilities, for availabilities of interest, and the sum of all expected to be screened at that point in time.

SOURCE DATA and REPORTING FREQUENCY FOR MEASUREMENT: Number of 2Ks screened (authorized/referred) to the availability is pulled from RMAIS monthly for each availability via a standardized database query script. These results are then saved to a spreadsheet containing the following data columns: Ship Name, JCN, Job Summary, TYCOM Screening Code (TYC), Screening Date, Availability Code, Availability Type, and Start Date.

Number of 2Ks expected to be screened is obtained by multiplying the monthly expected percentage as given in the table above times the notional number of 2Ks for that avail. The notional number of work package 2Ks is assigned by SHAPEC to the Type Commander for each availability, and must be provided to the CFT1 Metrics Officer. Bridge Plot (BP) data the BFM refers to is available on the SHIPMAIN metrics website http://www.spear.navy.mil/SHIPMAIN and the NAVSEALOGCEN website http://www.maintenance.navy.mil/shipmain.

BASIS FOR BASELINE: Six months of monthly data June to November 2002. Baseline is 6,857 2Ks.

BASIS FOR ENTITLEMENT: Screened 2Ks is equal to Expected 2Ks for each Month.

2. **Average Delivery Date of Late 2Ks**

UNITS: Days prior to start

MEASUREMENT DEFINITION: The average number of days after (A-90) that CNO Availability 2Ks are actually delivered to the planning activity. At A-90, 93 percent of the jobs should be screened to the planning activity.

The purpose of this metric is to drive the MTs to stop screening 2Ks late to availabilities, which causes late work premiums.
CALCULATION: 90 – (Average Days Late), where the average days late is the number of days after (A-90) that the 2K is assigned to the availability and authorized.

SOURCE DATA and REPORTING FREQUENCY FOR MEASUREMENT: All data comes from RMAIS, via a standardized script. CNSL Code 432A is responsible for the production of these reports monthly. CFT1 Metrics Officer is responsible for transposing the data onto the bridge plot spreadsheets. Data will be pulled monthly – on the first regular work day of the month, for the previous month. Bridge Plot (BP) data the BFM refers to is available on the SHIPMAIN metrics website http://www.spear.navy.mil/SHIPMAIN and the NAVSEALOGCEN website http://www.maintenance.navy.mil/shipmain.

BASIS FOR BASELINE: Six months worth of data, from June to November 2002. BL = A+13.83 days. That is, on average, the 2Ks that were late to the A-90 milestone were screened 13.83 days after the availability started.

BASIS FOR ENTITLEMENT: MSMO CNO Milestone, A-90 days.

3. **Ship 2K FPY**

UNITS: Percentage

MEASUREMENT DEFINITION: Percentage of 2Ks which are screened by the Port Engineer without being rejected back to the ship, having any modifications to the problem description portion of block 35 before XXX, or changes to the following configuration data fields: block 4 (APL), block 5 (Equipment Noun Name), block 13 (Serial Number), block 15 (Safety), block 16 (Location), block 37(CSMP Summary name), and block 56 (Work Request Routine) also known as the SWAB/SWLIN line. FPY is measured when a 2K is authorized/referred the first time. The purpose of this metric is to drive MTs to assist Ships Force in writing complete and accurate 2Ks.

CALCULATION:

1 - [# of 2Ks rejected or modified by the Port Engineer / # of 2Ks submitted] X 100%

SOURCE DATA and REPORTING FREQUENCY FOR MEASUREMENT: All data comes from RMAIS. CNSL Code 432A is responsible for the production of these reports monthly. CFT1 Metrics Officer is responsible for transposing the data onto the bridge plot spreadsheets. Data will be pulled monthly – on the first regular work day of the month, for the previous month. Bridge Plot (BP) data the BFM refers to is available on the SHIPMAIN metrics website http://www.spear.navy.mil/SHIPMAIN and the NAVSEALOGCEN website http://www.maintenance.navy.mil/shipmain.

BASIS FOR BASELINE: Average of six months of monthly data from June through November 2002. Baseline is 71%.

BASIS FOR ENTITLEMENT: TG heuristic plus judgment (halfway between baseline and 100%). Entitlement is 85%.

4. **Ship to Shore Cycle Time**

UNITS: Days

MEASUREMENT DEFINITION: This is the primary metric for this panel. Average number of calendar days elapsed from date that TA-1, TA-2 or TA-3 2K items are discovered until the 2K is entered into the CSMP shore file (RMAIS). This includes any delays in the initial entry into the ship's CSMP, along with any delays in approving the 2K and in uploading the CSMP from the ship.

The purpose of this metric is to drive the Ships Force to write, chop and up line 2Ks in a continuous and timely manner.

CALCULATION: For TA-1, TA-2, and TA-3 2Ks, the "when discovered date" is subtracted from the "RMAIS entry date" (static cycle time). The individual durations are summed and the result is divided by the number of durations, to obtain an average cycle time. This is done within each homeport, by ship class, and by ship.

SOURCE DATA and REPORTING FREQUENCY FOR MEASUREMENT: Both data fields come from RMAIS (Regional Maintenance Automated Information System), and are collected by executing an automated script. CNSL Code 432A is responsible for the production of these reports monthly. CFT1 Metrics Officer is responsible for transposing the data onto the bridge plot spreadsheets. Data

will be pulled monthly – on the first regular work day of the month, for the previous month. Bridge Plot (BP) data the BFM refers to is available on the SHIPMAIN metrics website http://www.spear.navy.mil/SHIPMAIN and the NAVSEALOGCEN website http://www.maintenance.navy.mil/shipmain.

BASIS FOR BASELINE: Average of six months data from June through November 2002. Baseline is 13.4 days.

BASIS FOR ENTITLEMENT: Flag judgment. Entitlement is 7 days.

5. **Shore to Screen Cycle Time**

UNITS: Days

MEASUREMENT DEFINITION: Average number of calendar days elapsed from date that TA-1, TA-2, and TA-3 2K items are entered into the CSMP shore file (RMAIS) until the job is "referred" on IMA 2Ks or "authorized" on depot 2Ks to a planning activity. This includes any delays that occur while under the control of the port engineer. This cycle time is calculated each time a 2K is screened or re-screened.

The purpose of this metric is to drive the MTs to Validate, Screen and Broker 2Ks in a continuous and timely manner.

CALCULATION: For TA-1, TA-2, and TA-3 2Ks, the "RMAIS entry date" is subtracted from the date of referral or authorization to a planning activity (static cycle time). The individual durations are summed and the result is divided by the number of durations, to obtain an average cycle time. TA-1, TA-2, TA-3 and Total (TA-1 + TA-2 + TA-3) data will be displayed on the Bridge Plot.

SOURCE DATA and REPORTING FREQUENCY FOR MEASUREMENT: All data comes from RMAIS. CNSL Code 432A is responsible for the production of these reports monthly. CFT1 Metrics Officer is responsible for transposing the data onto the bridge plot spreadsheets. Data will be pulled monthly – on the first regular work day of the month, for the previous month. Bridge Plot (BP) data the BFM refers to is available on the SHIPMAIN metrics website http://www.spear.navy.mil/SHIPMAIN and the NAVSEALOGCEN website http://www.maintenance.navy.mil/shipmain.

BASIS FOR BASELINE: Average of six months data from June through November 2002. Baseline is 43 days.

BASIS FOR ENTITLEMENT: Flag judgment. Entitlement is 8 days.

6. **Total Cycle Time**
UNITS: Days

MEASUREMENT DEFINITION: Average number of calendar days elapsed from date that TA1, TA2, or TA3 2-Kilo items are discovered until they are “referred” on IMA 2Ks or “authorized” on depot 2Ks to a planning activity.

The purpose of this metric is to drive Ships force and MTs, working together, to write, chop and up line and Validate, Screen and Broker 2Ks in a continuous and timely manner.
CALCULATION: The sum of Ship to Shore CT and Shore to Screen CT.

SOURCE DATA and REPORTING FREQUENCY FOR MEASUREMENT: Data comes from previously described metrics. CFT1 Metrics Officer is responsible for transposing the data onto the bridge plot spreadsheets. Bridge Plot (BP) data the BFM refers to is available on the SHIPMAIN metrics website http://www.spear.navy.mil/SHIPMAIN and the NAVSEALOGCEN website http://www.maintenance.navy.mil/shipmain.

BASIS FOR BASELINE: Average of six months data from June through November 2002. Baseline is 56.4 days.

BASIS FOR ENTITLEMENT: Sum of Ship to Shore CT and Shore to Screen CT entitlements. Entitlement is 15 days.

7. **Emergent Costs**

UNITS: Dollars

MEASUREMENT DEFINITION: Emergent RATA committed is Emergent dollars sent to various RMCs in a given month at the port level. The Emergent $ committed each month and the Cumulative Fiscal Year to Date are plotted on the panel.

The purpose of this metric is to drive the MTs and the RMCs to use good business cases to justify doing work with Emergent Dollars rather than shifting the work into planned CMAV and CNO availabilities, thus avoiding Emergent Premiums.

CALCULATION: Emergent $ Committed each month are posted to RMC BPs and rolled up to Coast and Total CFT 1 BP. Emergent $ Committed by PACFLT to COMLOGWESTPAC and CTF 53 are included in PACFLT and CFT 1 totals, but not in RMCs. LANTFLT Emergent $ Committed to CTF 63, and CTF 53 were included only in LANTFLT and

CFT 1 totals through 30 Sep 2004. As of 1 Oct 04, they are included in MARMC.

Beginning in October of each year, the Cumulative Fiscal Year To Date line is plotted by starting with the October value, adding the November value, etc thru the end of the Fiscal Year in Sept. Repeat for each succeeding fiscal year.

SOURCE DATA and REPORTING FREQUENCY FOR MEASUREMENT: COMNAVSURFLANT (CNSL) N430 and COMNAVSURPAC (CNSP) N430 run a detailed Emergent commitment report once a month, which shows commitments by RMC. CNSL N432 and CNSP N430 capture this data every month. These values will then be forwarded to CFT 1 Metrics Officer for incorporation into the CFT1 bridge plot.

Data the BFM refers to is available on the SHIPMAIN metrics website http://www.spear.navy.mil/SHIPMAIN and the NAVSEALOGCEN website http://www.maintenance.navy.mil/shipmain.
BASIS FOR BASELINE: FY 2002 Emergent Spent expenditure total. Baseline = $82,620K.

BASIS FOR ENTITLEMENT: TBD

8. **MFOM**

a. **Median MFOM (TYC-1, TYC-2, TYC-3 or TA-1, TA-2, TA-3)**
UNITS: MFOM

MEASUREMENT DEFINITION: Maintenance Figure of Merit (MFOM) is used to quantify every maintenance item in terms of relative priority, severity and criticality. Each point on the graph represents the median MFOM value of the 2Ks in the sample. At the ship level, it is the median MFOM of the TYC1, TYC2, TYC3 or the TA1, TA2, TA3 jobs residing in the “shore file” (RMAIS) at the time that the sample is taken. At the ship level, class level, port level, and fleet level, it is the median MFOM of all jobs for all ships in the sample. TYCs are used to calculate MFOM, if available; otherwise TAs will be used until MT enters TYCs during Screening and Brokering. Individual MFOM values greater than 100 are truncated to 100.

The purpose of this metric is to track the Median MFOM over time. If MTs are doing the “right” maintenance, Median MFOM should decline over time.

CALCULATION:
MFOM Formula:

MFOM = (MCC/PRI) * (SEVERITY/100) * (Equip STATUS modified) * (TYCOM SCR modified) *(12.5)

Equipment STATUS modified:	TYCOM SCR modified:
0 (N/A) = 1	TYC1 = 4
1 (Operational) = 2	TYC2 = 2
2 (Inoperative) = 4	TYC3 = 3
3 (Reduced Capability) = 3	TYC4 = 1

SWLIN is used as the key to look up Mission Criticality Codes and Severity Codes from MRS.

Median MFOM: The median of a sample is the value at which half of the sample points are greater and half of the sample points are lesser. For a symmetrically distributed sample, the median and the mean will be identical, but it can be seen from a histogram of MFOM values that the MFOM is not distributed symmetrically. The median is influenced less by extremes in the sample, and so is considered to be a better representation of the data sample for unsymmetrical distributions.

If n = 2r+1 (Odd number of sample points)

Median MFOM = X_{r+1}

If n= 2r (Even number of sample points)

Median MFOM = $(X_r + X_{r+1}) / 2$

Where n is the sample size.

SOURCE DATA and REPORTING FREQUENCY FOR MEASUREMENT: MFOM is calculated within RMAIS in accordance with the formula given in CNSF Note 4701 for each 2K in the shore file. Mission Criticality Code and Severity are obtained from MRS. All other fields for the MFOM calculation come directly from the 2K itself. After the MFOM value is calculated, it is placed in block 43, Integrated Priority List. Note: MFOM formula is truncated to no greater than 100.

The Median MFOM is based on a “snapshot” sample; a sample of all jobs which are active in RMAIS at the time of the sample. This sample will be taken monthly on the 1st working day of each month. CNSL N432A is responsible for ensuring that this sample is taken each month, and for calculating median MFOM values for each ship, each port, each ship class within each port, each fleet, and for both fleets combined. These values will then be forwarded to

CFT1 Metrics Officer for incorporation into the CFT1 bridge plot. Bridge Plot (BP) data the BFM refers to is available on the SHIPMAIN metrics website http://www.spear.navy.mil/SHIPMAIN and the NAVSEALOGCEN website http://www.maintenance.navy.mil/shipmain.
BASIS FOR BASELINE: Six months worth of monthly data, starting from first month the report is available. Baseline is 28.3.

BASIS FOR ENTITLEMENT: TBD

b. **MFOM Null Value Percentages**
UNITS: Percentage

MEASUREMENT DEFINITION: Each point on this line represents the percentage of 2Ks in the sample which contain no value in Block 43 (Integrated Priority List). Block 43 will contain no value if the MFOM calculation has not been attempted, or if a missing data element needed for the calculation has caused the formula to return a null value.

The purpose of this metric is to drive MTs to identify 2Ks with Null or zero MFOMs and take actions to calculate an accurate MFOM for the 2K.

CALCULATION:
1 – (# of 2Ks with a null value in block 43 / # of 2Ks in the sample) X 100
SOURCE DATA and REPORTING FREQUENCY FOR MEASUREMENT: The number of null value MFOMs is based on a "snapshot" sample; a sample of all jobs which are active in RMAIS and/or MST at the time of the sample. This sample will be taken monthly on the 1st working day of each month. CNSL N432A is responsible for ensuring that this sample is taken each month, and for calculating null value percentages for each ship. These values will then be forwarded to CFT1 Metrics Officer for incorporation into the MT's bridge plot. Bridge Plot (BP) data the BFM refers to is available on the SHIPMAIN metrics website http://www.spear.navy.mil/SHIPMAIN and the NAVSEALOGCEN website http://www.maintenance.navy.mil/shipmain.

BASIS FOR BASELINE: Six months worth of monthly data, starting from first month the report is available. Baseline is 25.5.

BASIS FOR ENTITLEMENT: TBD

9. **On Time Delivery Percentage**

a. **CNO OTD**

UNITS: Percentage

MEASUREMENT DEFINITION: Percentage of 2Ks screened on time to CNO availabilities.

The purpose of these metrics is to drive MTs to conform to the established Screening and Brokering Milestones for CNO, CMAV, CM (TYC 3 and TA3).

CALCULATION:
[# of 2Ks assigned and authorized in RMAIS on time / total # of 2Ks authorized] x 100%

Where “on-time” varies depending on the type of availability thusly:

CNO Availability A-90

SOURCE DATA and REPORTING FREQUENCY FOR MEASUREMENT: All data comes from RMAIS, and is collected by executing an automated script. CNSL Code 432A is responsible for the production of these reports monthly. CFT1 Metrics Officer is responsible for transposing the data onto the bridge plot spreadsheets. Data will be pulled monthly – on the first regular work day of the month, for the previous month. Bridge Plot (BP) data the BFM refers to is available on the SHIPMAIN metrics website http://www.spear.navy.mil/SHIPMAIN and the NAVSEALOGCEN website http://www.maintenance.navy.mil/shipmain.
BASIS FOR BASELINE: Six months worth of data from June to November 2002. Baseline = 87%

BASIS FOR ENTITLEMENT: Set to 93%, to coincide with the expectations of CFT 2 in their Package Build Metric BFM.

b. **CMAV OTD**

UNITS: Percentage

MEASUREMENT DEFINITION: Percentage of 2Ks screened on time to CMAV Availabilities.

CALCULATION:
[# of 2Ks assigned and authorized in RMAIS on time / total # of 2Ks authorized] x 100

Where “on-time” varies depending on the type of availability thusly:

CMAV A-40

SOURCE DATA and REPORTING FREQUENCY FOR MEASUREMENT: All data comes from RMAIS, and is collected by executing an automated script. CNSL Code 432A is responsible for the production of these reports monthly. CFT1 Metrics Officer is responsible for transposing the data onto the bridge plot spreadsheets. Data will be pulled monthly – on the first regular work day of the month, for the previous month.

BASIS FOR BASELINE: Six months worth of data from June to November 2002. Baseline = 49%

BASIS FOR ENTITLEMENT: Set at 93% to coincide with CNO Entitlement.

c. **CM/Tech Assist OTD**

UNITS: Percentage

MEASUREMENT DEFINITION: Percentage of 2Ks screened on time to Year Long CM Availabilities and Tech Assists.

CALCULATION:

[# of 2Ks assigned and authorized in RMAIS on time / total # of 2Ks authorized] x 100
Where “on-time” varies depending on the type of availability thusly:

Year Long CM RMAIS Entry date + 14 days
Tech Assists RMAIS Entry date + 14 days

SOURCE DATA and REPORTING FREQUENCY FOR MEASUREMENT: All data comes from RMAIS, and is collected by executing an automated script. CNSL Code 432A is responsible for the production of these reports monthly. CFT1 Metrics Officer is responsible for transposing the data onto the bridge plot spreadsheets. Data will be pulled monthly – on the first regular work day of the month, for the previous month. Bridge Plot (BP) data the BFM refers to is available on the SHIPMAIN metrics website http://www.spear.navy.mil/SHIPMAIN and the NAVSEALOGCEN website http://www.maintenance.navy.mil/shipmain.

BASIS FOR BASELINE: Six months worth of data from June to November 2002. Baseline = 73%

BASIS FOR ENTITLEMENT: Set at 93% to coincide with CNO Entitlement.